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ABSTRACT

The impact of factors related to professional socialization on job satisfaction and retention among faculty members in research university schools of nursing was studied. The impact of professional communication on clarity of professional role was also assessed. The study sample was drawn from nurse faculty members from schools of nursing which offer the Ph.D. degree. Survey forms seeking demographic and attitudinal information were mailed to 380 persons, of whom 225 responded. The research model included the variables of geographic location, school reputation, calibre of students, salary, and tenure. Multivariate and causal analysis techniques were employed. It was found that those with high communication activity tend to have low ambiguity which in turn results in high job satisfaction. Role ambiguity decreases job satisfaction and intent to remain at the school, and role ambiguity is decreased by external/active professional communication. Role conflict also reduces job satisfaction and retention. Among the variables affecting retention, geographic location of the school had the greatest impact followed closely by role ambiguity and role conflict. Additional findings and their implications are addressed, along with strategies for enhancing job satisfaction of nurse faculty members. A causal model for retention is appended. (SW)

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Factors Influencing Job Satisfaction and Retention Among Faculty Members
at Schools of Nursing Offering the PhD Degree

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Factors Influencing Job Satisfaction and Retention Among Faculty Members at Schools of Nursing Offering the PhD Degree

The retention of qualified faculty members in higher education is a growing concern. The Carnegie Foundation for the Advancement of Teaching released a report of a recent survey of 5000 faculty members at two- and four-year institutions in which 40% indicate they may leave academe within five years due to dissatisfaction (Carnegie Foundation, 1985). In addition to cutbacks in government funding and decreases in graduate school enrollments, there are increasingly stringent requirements for appointment, promotion, and tenure (Henry, 1981). There is also increasing competition for these educators from agencies in the private sector which are offering attractive salaries and benefits (Lenz and Waltz, 1983).

One particular group of academicians faced with these concerns is faculty members at collegiate schools of nursing. Recent research suggests nurse educators are dissatisfied with job conditions most important to them (Grandjean et al., 1976; Marrimer and Craigie, 1977). Due to the high cost of faculty turnover and the importance of recruiting and retaining qualified educators, it is worthwhile to identify contextual factors leading to job satisfaction and retention.

A useful theoretical approach for exploring these issues is that of socialization (Katz and Kahn, 1978). Individual commitment and satisfaction in an organization is thus perceived as a function of shared values between the organization and its individual participants. The socialization perspective in turn suggests mechanisms by which strong bonds are formed between individuals and organizations. For example,

does the organization have a clearly articulated "culture" as represented by professional values and norms, or are these values diverse and conflicting? Second, are the values and norms communicated formally and informally, thus socializing individuals over time?

Two factors specific to nurse academicians help focus this general theoretical perspective. The first factor concerns role ambiguity and role conflict. Nursing faculty members are expected to achieve equally high performance in the areas of teaching, scholarly activity, and service (Botey, 1983). Clarity of professional role may be difficult to achieve due to these equally weighted role expectations; thus, dissatisfaction for nurse faculty members may result. Research suggests a clear understanding of the functions and tasks of a job significantly increases job satisfaction and decreases the propensity to leave a job (Lyons, 1971; Locke et al., 1983).

A second factor peculiar to nurse faculty members is isolation from the rest of academia. Prior to World War II, nursing education occurred in non-degree granting programs within hospitals. Subsequently, there was a slow movement toward offering a baccalaureate degree in nursing in a collegiate setting. Due to the relatively late start in academia, nursing faculty are perceived by some as isolated physically, intellectually, and socially from the community of scholars (Group and Roberts, 1974). The isolation may be related to lack of socialization of nurse faculty members into academia (Mausch, 1982). The socialization process permits the internalization of values and norms used to guide behaviors appropriate to a specific role (Moore, 1980). Similarly, communication and contact with academicians from other disciplines and from other universities, as well as communication and contact from within the schools may enhance the

socialization process and increase role clarity (Pennington, 1986).

Objectives of the Study

The major objective of this study is to identify the impact which certain factors related to professional socialization have upon job satisfaction and intent to remain at the current institution among faculty members in research university schools of nursing. Prior studies have identified a number of these factors. However, no single study has employed multivariate and causal analysis techniques to examine the ways these various factors interrelate and affect satisfaction and retention. This study adds to the literature by employing these methods with a national sample of nursing faculty.

One sub-objective of this study is to assess the impact which professional communication has on clarity of professional role. A second sub-objective is to determine the impact each has on job satisfaction and on intent to remain with the institution. The impetus for focusing on professional communication is based upon nursing faculty members' qualitative reports of their relative professional isolation from researchers in other disciplines due to their recent move from hospital based schools into the mainstream of academia. The concern with role clarity stems from reports of role conflict and ambiguity experienced by nurse faculty members due to the many demands on their time.

The Sample

Of all the schools offering collegiate programs in nursing, there is one group which appears to be particularly interested in advancing to the level of other academic departments. This group consists of schools offering the doctor of philosophy (PhD) degree for nurses. The PhD degree has traditionally placed an emphasis on education in research methodology and

related scholarly activities such as active inquiry and publishing the results of that inquiry. Therefore, professional communication would likely be of greater importance among the faculty members in schools offering the doctor of philosophy (PhD) degree for nurses than in nursing schools offering more clinically oriented doctoral degrees or masters degrees as their terminal degree. Faculty members at schools offering the doctor of philosophy (PhD) degree for nurses are likely to be involved in national professional meetings and to be included in planning groups at a local level. On the other hand, the role expectations among these faculty members are likely to be especially demanding and complex, leading to the same discomforts described in studies of many general faculty members who experience conflict between research and teaching (Locke et al., 1983). Therefore, nurse faculty members from schools of nursing which offer the PhD degree constitute the sample.

The Model

Based upon theory and research concerning socialization and communication, as well as the limited number of reports concerning retention among collegiate nurse faculty members, the following items have been identified for inclusion as exogenous/independent variables in the causal model (Grandjean et al., 1976; Marriner and Craigie, 1977; Lenz and Waltz, 1983; Sorensen et al., 1985). These are geographic location and reputation of the school, calibre of students, salary, family responsibilities, perceived potential for tenure and professional communication activities. Endogenous/dependent variables include satisfaction with pay, promotional opportunities, the nature of the work and, finally, the degree of intent to remain with the institution. Several individual level measures, i.e., academic rank and educational preparation,

were designated as control variables since they are not of primary interest in this study. The former is defined as professorial rank and the latter as highest educational degree attained.

The theoretical model of socialization underlying the study assumes that clarity of professional values or culture, represented by individual perceptions of the professional role, influences satisfaction, which in turn influences the decision to remain in the organization. Empirical research on these concepts supports the general model and suggests more specific relationships useful to the analysis. For example, professional communication among faculty members influences professional role ambiguity and conflict. Certain variables such as school location and reputation, calibre of students, promotion opportunity and salary may independently influence retention decisions. Finally, factors such as family circumstances obviously influence retention desires. Figure 1 summarizes the general theoretical model. In the sections which follow, each of the variables is defined and operationalized. Specific relational hypotheses are also included. Table 1 summarizes the hypotheses represented by this model.

Definition/Discussion of Model Variables.

Professional communication, refers to interaction related to scholarly activities between and among academicians. For the purpose of this study, professional communication is divided into internal and external components, and both components are treated as exogenous variables in the model. Internal professional communication is operationalized by self-reports of consistent meetings with other faculty members within the various schools of nursing to discuss professional matters, membership in professional societies, consistent meetings about

professional matters with faculty members outside the schools of nursing but within their institution, and finally by numbers of meetings with academicians outside of the institution. External professional communication is operationalized by self-reports of attendance at national professional meeting in the past year, and number of papers presented during the career and in the past year. Internal professional communication implies passive involvement with potential for discussion as the greatest involvement. External professional communication implies active scholarly involvement, e.g., presenting papers and actually attending and presenting at professional meetings rather than simply holding membership in a national group.

Internal and external professional communication are included in the model due to their potential to facilitate the socialization process. It should be noted the variable, collegiality, is identified in the studies of retention of nursing faculty as one reason for remaining with the organization. The term is analogous to internal communication, and thus would not be independent from that variable, preventing its inclusion in the model. As an individual becomes socialized into a setting, an increase in role clarity occurs (Moore, 1980; Farris, 1981; Hage, 1974). Although clarity about their academic role is experienced primarily within a particular school, the means of attaining this clarity is influenced by factors external as well as internal to that microcosm.

Geographic location is defined as the area of the nation where the school is located. School reputation is the overall regard by informed individuals for the institution as related to other schools of nursing. Calibre of students is the measure of excellence of performance of individuals enrolled on the school of nursing programs. They are included

in the model to determine their impact on retention intent among this particular sample of nurse educators. They are operationalized by self reports of the degree of satisfaction with each as indicated on seven point Likert-like scales. Salary is defined as payment received for services rendered by nursing faculty members, and it is operationalized by reported salary range. Since family circumstances may influence the nurse academician's decision to remain, kinship priority was added to the model. It is operationalized by the self report of the degree to which family situations, such as spouse changing jobs or children being born, may influence the intent to leave the organization. Tenure, is operationalized by self report of the likelihood of tenure achievement within the next three years given the hypothetical existence of eligibility.

The model progresses to include the endogenous/dependent variables role conflict, role ambiguity, work satisfaction, pay satisfaction, promotion satisfaction, and retention within the particular school of nursing. Role conflict is defined as a situation where behaviors expected of an individual are inconsistent, and role ambiguity is defined as lack of information available to a given organizational position (Rizzo et al., 1971). Role conflict and role ambiguity are concepts useful in determining whether individuals perceive the organization as having coherent professional culture. The perception of high ambiguity and conflict could contribute to low satisfaction and desire to remain. For example, the role of the nurse academician can be both ambiguous and conflicted at times given the multiple expectations to be an educator, researcher, administrator, and clinician.

Within research settings, a critical socialization role is played by communication (Allen, 1979). Communication helps to clarify, direct, and

reinforce the nature and focus of research activity. Frequency of contact with professionals can also influence the ability to perform the academic role (Hage, 1976). Based upon this research, it is expected there will be a negative relationship between professional communication, role conflict and role ambiguity. Similarly, negative relationships are also anticipated between role conflict, ambiguity and retention.

Role conflict and role ambiguity are operationalized by degree of agreement with general descriptions of expectations the individual perceives for herself in the work setting. Leadership/administration which is another determinant of retention, is implied in the operationalization of these variables.

Several authors define job satisfaction and discuss its general importance. Gruneberg (1979) states that it is the matching of ones needs, values, and expectations to what the job offers. Locke (1976) views it as a pleasurable or positive emotional state resulting from the appraisal of one's job experience. Gruneberg believes an understanding of factors influencing job satisfaction is relevant to improving the well-being of a large number of individuals.

Van de Ven and Perry (1980) found peer contact and communication influence job satisfaction and commitment. Stumph and Rabinowitz (1981) found role clarity impacts positively upon job satisfaction. A number of authors found a positive relationship between job satisfaction and intent to remain associated with the employing institution (Katz and Kahn, 1978; Mobley, 1982; Lawler, 1971).

Job satisfaction is operationalized by reports of positive or negative perceptions of the work itself, pay, and promotion. The role items function as exogenous variables in relation to the job satisfaction items

and intended retention, and the job satisfaction items function as exogenous in relation to intended retention.

Retention is defined as intent to remain with the current institution. While the importance of job satisfaction to individual performance is disputed, retention is well documented as one positive outcome of job satisfaction (Marrimer and Craigie, 1977). In turn, retention is a critical policy variable for organizations. Administrators are encouraged to identify ways to retain members of an organization who are performing in an acceptable manner, since turnover and the resultant need to retrain new employees is a monetary as well as an organizational expense (Katz and Kahn, 1978). Retention is operationalized by the degree to which the respondent indicates plans to continue at that school of nursing. Thus, job satisfaction and retention are included in the model as the critical outcomes of a socialization process. Further, the study will provide insight into the magnitude of influence job satisfaction exerts upon retention in this particular group of nurse educators.

Methodology

The Instrument and Data Collection

The instrument. The survey instrument consisted of two parts: demographic information and attitudinal information including measures of role ambiguity and role conflict (Rizzo's Role Questionnaire, 1970), satisfaction with aspects of work (Smith, Kendall and Hulin's Job Descriptive Index, 1969), interactions with other professionals (Allen's Communication Survey, 1980), and the respondent's attitude toward her school of nursing (including Locke's survey of intended tenure, 1983).

A pilot study was completed at a school of nursing which was not included in the study but which plans to offer a PhD in nursing in the near

future. The instrument was modified based on interviews with the 10 pilot study participants.

Data collection. A sample of faculty members was drawn from schools offering doctor of philosophy programs in nursing as identified by the National League for Nursing (1983). In order to obtain a consistent listing format of faculty, letters requesting the School of Nursing Bulletin were mailed to the 17 schools of nursing. It should be noted, with the exception of one school, all were identified as being among the top 30 schools of nursing in the nation according to a recent survey of deans of accredited nursing schools and members of the ANA Council of Nurse Researchers (Chamings and Hodgson, 1984).

Of the 17 eligible schools, 15 supplied their current Bulletins which listed faculty members. From that list there are 124 full professors, 252 associate professors, and 381 assistant professors for a total of 757. Information about each faculty member varies greatly among the schools. Since all lists have at least professorial ranking, subjects were identified on that basis. There are only seven males in the group, and results for males may be different from female faculty members, such as reasons for remaining at the institution. Therefore, the sample is restricted to females.

A systematic sample was drawn with the intent to achieve a sample representative of this group. Therefore, subjects remained divided by their respective schools and professorial rankings, and every other name was selected. This method permitted maintaining a stratified sample while reducing the group to a more economical number. This selection process yielded a sample of 380. Data were collected via mailed questionnaires utilizing recommended procedures for enhancing survey

response (Babbie, 1979).

Of the original 380 potential respondents, 80 had left the schools between the printing of the bulletins and mailing of the questionnaires. Of the remaining 300 nurse faculty members, completed questionnaires were received from 225 for a response rate of 75%. Comparisons of academic rank for respondents and nonrespondents indicated no substantial differences between the two groups.

Data Analysis

Composite Variables

The multiple measures for role ambiguity, role conflict, internal and external professional communication, and intent to remain at the institution were subjected to factor analyses using principal components extraction and varimax rotation¹. The resultant composite scores were used in subsequent multiple regression analyses to acquire path coefficients for the hypothesized direct and indirect effects.

The validity of the measures underlying these constructs receives strong support since all have been used in previous research, and were found to confirm the stated concepts in those studies. Reliabilities were assessed using the theta reliability coefficient for the composite variables, and the results ranged from .80 for the retention composite to .98 for the external professional communication composite. Scores for the three job satisfaction scales of satisfaction with work, pay, and promotion were computed rather than composite scores. Therefore, the Cronbach's alpha reliability coefficient was used, and the results ranged from .75 to .98. Reliabilities from both the composites and computed scores were within acceptable limits.

Descriptive analysis

Demographic variables which were assessed via frequencies and statistics included educational degree, academic rank, age, salary, marital status and full- versus part-time employment. Results indicate two-thirds the respondents hold doctoral degrees, but the majority of those degrees are in disciplines other than nursing. One fourth of the group are full professors, less than one fourth are over age 55, and 40% are currently married. Nearly half earn less than \$35,000 annually, and the great majority are employed on a full-time basis.

Other summary statistics include professional activity, degree of satisfaction with certain contextual variables, perceived potential for tenure attainment and intent to remain with the current school of nursing. The majority support their professional organizations by joining them and by attending national and local meetings, and most are involved in scholarly activities. However, in 1985, nearly one fourth attended no local professional meetings and 20% attended no national professional meetings. Twelve percent of the respondents have never presented a paper.

There is a reported high level of professional communication within the school and a moderate level with colleagues outside the university. Nevertheless, nearly one third report never meeting with faculty within the same university. This report, coupled with nonparticipation in professional meetings, is contrary to the high role expectations held for all nurse academicians.

The majority of respondents were at least satisfied with the geographic location and reputation of the school and with the calibre of students. In response to the theoretical question, "Regardless of your actual tenure status, if you would be up for tenure review sometime

within the next three years, what is the likelihood you would be granted tenure?", nearly one third of the respondents perceived themselves to be very likely to be granted tenure compared to less than one fifth who perceived themselves very unlikely to be granted tenure. Even though the majority expect to remain at their current schools at least for the next two years, three quarters of them think at least some of the time about changing jobs.

Causal Analysis

The method used to test the hypothesized causal model is path analysis, i.e., a technique of multivariate analysis in which all theoretically plausible relationships among variables in the model, both direct and indirect, are hypothesized (Mueller et al., 1967). Conditions necessary to meet the basic assumptions of multiple regression as well as assumptions specific to path analysis were present².

Results

The hypotheses for the proposed model were first tested and results appear in Table 1. Kenny (1979) discusses the need to respecify a model after estimation and testing. He assures this is a normal practice and a researcher should not be embarrassed. What one should avoid is discussion of only the final model as if it were the only model. The reader deserves explanation about the initial model and the steps taken to obtain the final model. Results for the initial model as well as those for the final model appear in Table 2.

After calculating path coefficients for a just-identified model, i.e., one in which all possible relationships are proposed in a unidirectional flow, nonsignificant and/or theoretically meaningless path coefficients may be eliminated from the model (Duncan, 1975; Heise, 1975). This approach is

labeled theory trimming, and although it is accepted by a number of researchers, it has the shortcoming of being applied post hoc. The basic criterion for deciding whether or not to theory trim is whether one believes the data can form a hypothesis (McPherson, 1976). Pedhazur (1979) does concede in exploratory stages of research, one might gain insight by resorting to theory trimming, provided it is not construed as interchangeable with or a substitute for a priori hypothesis testing. Kenny (1979) points out causal modeling is meant to be confirmatory, but "we often find ourselves using it in an exploratory mode" (p.60).

With these concerns and constraints in mind, but with an interest in possibly identifying additional significant paths in a fully identified version of the initial model, theory trimming was initiated. The alternative was to analyze a variety of additional models as is done in a number of studies, e.g., Duncan et al. (1971) and Gwyer (1984). However, in this case, all paths based on reports in the literature had been included in the original model. There were no obvious competing theories to analyze.

When the fully-identified model was analyzed, the majority of significant paths which were in the original model were also significant in the fully identified model. The final model appears in Figure 2. Kinship priority was eliminated based on the results of the fully identified model: it had no significant relationship with any other variable in the model. The other values were close to those of the original model as can be seen in Table 2. There are the same significant direct effects on retention by geographic location, school reputation, role ambiguity, role conflict, work satisfaction and promotional satisfaction. Calibre of students, internal professional communication, role ambiguity, and role conflict continue to

have direct effects on work satisfaction. Salary remains a direct effect upon pay satisfaction, and perception of tenure attainment still directly affects promotional satisfaction.

External professional communication continues to have significant direct effects upon role conflict and role ambiguity. One major difference between the original model and the final model is internal professional communication no longer has a significant effect on role ambiguity in the final model.

However, additional significant paths emerged primarily involving role ambiguity and role conflict; these are enumerated in Table 3. Role ambiguity and role conflict have significant direct effects on promotional satisfaction and on pay satisfaction. In addition, reputation of the school, calibre of students, and salary have significant direct effects upon role ambiguity, and salary has a significant direct effect on role conflict.

Intuitively, all of these relationships are logical. For example, it seems reasonable at schools where the perceived calibre of students is high, the role ambiguity is low and the promotional satisfaction is high. That is, this combination would be as expected in a positive environment. Likewise, in an environment where the perceived reputation of the school is high, role ambiguity is probably low and the reward system, i.e., pay and promotion is probably satisfactory.

Even though all of this seems reasonable, one would be hard pressed to find confirmatory reports of these specific combinations in the literature. They are implied, but the original model included only those paths for which there was documentation. What had not been previously documented in the literature were the hypothesized combinations of effects. This is not surprising given the lack of previous multivariate research.

Table 2 presents the direct, indirect, and total effects for the original and final causal model. Figure 2 summarizes the results of the path analysis for the final causal model with only significant paths and residuals included. Results will be discussed in terms of the hypotheses and the effects upon the endogenous variables in the final model. Unless noted otherwise, only significant effects are discussed.

Role ambiguity. The model proposes significant relationships between role ambiguity and external professional communication. The hypothesis is supported by negative effects of $-.165$. This result supports reports that the higher the level of professional socialization, the clearer is the perception of role behavior (Farris, 1981; Dill et al., 1984).

The hypothesis proposing a negative effect of role ambiguity upon work satisfaction is also supported by a significant $-.307$ effect. This result coincides with studies by Katz and Kahn (1978) and Locke et al. (1983). The former reported increased tension and decreased job satisfaction associated with high degrees of role ambiguity, while the latter found a strong positive relationship between job satisfaction and work role clarity. Qualitative reports in the nursing literature associate job dissatisfaction among nurse faculty members with unclear role definition (Batey, 1983; Ford and Kitzman, 1983).

The predicted negative effect of role ambiguity upon retention is supported by a direct negative effect of $-.181$. This result confirms reports of role ambiguity decreasing job satisfaction and retention among faculty members (Horton, 1983; Mobley, 1982). Overall, the predicted effects of role ambiguity receive support in the analysis: role ambiguity decreases job satisfaction and intent to remain at the institution while role ambiguity is decreased by professional communication.

Role conflict. Although negative effects were predicted for internal and external professional communication upon role conflict, the opposite occurred. External professional communication had a significant positive effect of .225, while internal professional communication had a nonsignificant, though positive effect. It may be those who are attending meetings and presenting papers, i.e., high communicators, experience high role conflict because they consider teaching and service as a drain on their scholarly activities.

The hypothesized negative effect of role conflict upon work satisfaction is supported by a result of $-.343$. This result concurs with a report indicating faculty members are less frustrated when perceived and actual job responsibilities are congruent (Smart and Morstain, 1975). There is also a direct effect of $-.175$ upon retention, and indirect effects of $-.054$ via job satisfaction. This indicates the higher the role conflict, the lower is the job satisfaction and intent to remain with the institution, and this result receives support from similar studies (Horton, 1983; Mobley, 1982). The effects of role conflict upon job satisfaction and retention are negative as they are for role ambiguity. However, since levels of professional communication are positively associated with role conflict for this group of nurse faculty members there is a potential problem in terms of job satisfaction and retention for high communicators.

Work satisfaction. In addition to the effects upon work satisfaction which were previously discussed, internal professional communication has a direct effect of .171. Thus, professional communication with colleagues tends to enhance the work satisfaction for these nurse faculty members.

As was hypothesized, there is a direct effect of .204 by calibre of

students upon work satisfaction. This coincides with reports of high student competence positively affecting work satisfaction (Baldrige et al., 1980; Lenz and Waltz, 1983). However, contrary to the report by Lenz and Waltz, there is no significant direct effect by calibre of students upon retention. This suggests although interacting with competent students makes the work itself more satisfying, it is not enough to assure remaining at the institution. As hypothesized, there is a direct effect of .158 of work satisfaction upon retention, and this result supports previous studies in which satisfied employees were more likely to remain with the institution than those who were dissatisfied (Mobley, 1982; Hershey and Blanchard, 1982).

Pay satisfaction. Although there is a direct effect of salary level upon pay satisfaction, as was hypothesized, the predicted effect of pay satisfaction upon retention was not confirmed. Perception of adequate pay is one aspect of the reward system, which is in turn an integral component of overall job satisfaction (Lawler and O'Gara, 1967; Lawler and Porter, 1967; Pritchard et al., 1972). The nonsignificant effect upon retention receives support from Nadler, et al. (1979) who caution if an organization does not identify and reward its high performers, they may leave even when pay levels are competitive.

Promotional satisfaction. The effect of .307 for perceived potential for tenure attainment upon promotional satisfaction supports the hypothesis, and, like pay satisfaction, implies a link to perception of the reward system. There is also an effect of .164 for promotional satisfaction upon retention. Several studies report university faculty members consider promotion as the least satisfactory aspect of their jobs, expressing concern about the emphasis placed on publication

compared to teaching and service (Gruneberg, 1974; Nickolson and Miljus, 1972). There is no direct effect of perceived potential for tenure attainment and retention, suggesting satisfaction with the promotion policies of the school must be present to influence intent to remain at the school. Thus, for these nurse academicians, work satisfaction and promotional satisfaction exert more influence upon retention than does satisfaction with pay.

Retention. In addition to the previously discussed effects upon retention, several additional effects were hypothesized. There were direct effects by geographic location of .242 and .151 by reputation of the school. Both of these variables were identified in a previous study of 790 nurse faculty members as having influenced selection of their current schools (Lenz and Waltz, 1983).

Among the variables affecting retention, geographic location of the school has the greatest impact of .242, followed closely by role ambiguity and role conflict which have negative effects of -.181 and -.175, respectively. Promotional satisfaction has an effect of .164 while work satisfaction has an effect of .158, followed closely by school reputation which has an effect of .151. The variables which have small indirect effects are internal professional communication (.027), perceived likelihood for tenure attainment (.050), calibre of students (.077) and external professional communication (-.005). Neither salary, kinship priority, nor pay satisfaction have any direct effect on intended retention.

Assessment of Interactions

Multiplicative terms were included in the multiple regression analysis of the model to identify possible interactions. None appeared until retention was regressed on all other variables in the model. A significant

interaction occurred between degree of satisfaction with the geographic location of the school and role conflict. A three-way crosstabulation was created with role conflict as the independent variable, retention as the dependent variable and degree of satisfaction with the geographic location of the school as the control variable.

The results indicate the interaction of high degree of satisfaction with the geographic location of the school and low level of role conflict produce a high intent to remain with the organization. The fact that the interaction was significant indicates the combination of the two variables had a greater effect upon retention than either of their separate effects had on retention. This pattern holds true for 165 respondents. For 15 respondents there is a different pattern in which low to moderate levels of role conflict interacts with low levels of satisfaction with geographic location, resulting in low intent to remain with the organization. However, the former pattern is true for the great majority of the respondents.

Testing the Model

The final causal model is overidentified, that is, one which consists of more equations than are necessary for the purpose of parameter estimation. To test the model for goodness of fit, it was compared to the just identified model, i.e., the model consisting of variables identical to those in the overidentified model, but with all interconnected in a unidirectional flow (Specht, 1975). Briefly, determinants of the original and reproduced correlation matrices are used to calculate a chi square with degrees of freedom equal to the number of overidentifying restrictions.

A significant W, which is similar to chi square, indicates the model

does not fit the data. An additional measure, suggested by Specht, is the Q which is not a factor of sample size, as is the W. Q can vary from zero to one, and the closer to one, the better the fit of the model. Using this test for goodness of fit, a Q of .79068 resulted with a W of 44.388. From the chi squared tables, with 36 degrees of freedom, the result is between 40.56 and 51.8 for a probability of .10. Based on these results with a predesignated alpha of .05, the hypothesis of there being no difference between the final model and the fully identified model is not rejected: the model fits the data in this case. The implication is when the results of the original model and the final model are compared, the inclusion of the additional relationships improve the goodness of fit of the model.

Comparison of R squares. The explanation of variance by the addition of paths in the final model is greater than the explanation of variance for the original model. Results appear in Table 4. The R^2 s for both role ambiguity and role conflict are higher in the final model while the R^2 for work satisfaction in the final model is slightly lower. The R^2 s for pay satisfaction and promotional satisfaction in the final model are substantially higher than in the original model. Finally, when intended retention is the endogenous variable, the R square is .47692 for the original model compared to .45598 for the final model. The slight decrease may be due to the deletion of kinship priority from the model. Even though kinship priority had no significant relationship with any of the endogenous variables, it did contribute a slight amount to the explanation of variability in retention. However, the final model accounts for more overall variance than does the original model. Not only are they two different models, but also, by the addition of paths, the final model fits the data.

Conclusions

Path analysis is a confirmatory form of analysis, and a number of results from previous studies have been confirmed in this study. As expected, there is a significant negative relationship between role ambiguity and external professional communication, as well as between role ambiguity and job satisfaction. That is, those with high communication activity tend to have low ambiguity which in turn results in high job satisfaction. These results support need for active/external professional socialization to clarify role behavior which should in turn enhance job satisfaction.

There is theoretical support for a significant negative relationship between internal professional communication and role ambiguity. However, when geographic location, school reputation, calibre of students, salary and tenure were included in the final model, the relationship between internal professional communication and role ambiguity disappeared. Therefore, internal professional communication is not a very powerful factor in explaining role ambiguity.

The predicted negative effect of role ambiguity upon retention is supported, and confirms reports of role ambiguity decreasing job satisfaction and retention among faculty members. Overall, the predicted effects of role ambiguity receive support in the analysis: role ambiguity decreases job satisfaction and intent to remain at the institution while role ambiguity is decreased by external/active professional communication.

Although negative effects were predicted for internal and external professional communication upon role conflict, the opposite occurred.

External professional communication had a significant positive effect while internal professional communication had a nonsignificant, though positive effect. The differences in the effects of professional communication on role ambiguity compared to role conflict may be attributed to the differences identified in the factor analysis between the internal/discussion and external/scholarship aspects of professional communication.

The negative effect of role conflict upon work satisfaction and retention is also supported. This indicates the higher the role conflict, the lower is the job satisfaction and intent to remain with the institution. The effects of role conflict upon job satisfaction and retention are negative as they are for role ambiguity. However, since levels of professional communication are positively associated with role conflict for this group of nurse faculty members there is a potential problem in terms of job satisfaction and retention for high communicators. Since faculty reporting high levels of professional communication are also likely to be "cosmopolitans" (Allen, 1979), with high levels of scholarship and publication, this suggests these PhD programs in nursing are most likely to lose those faculty members they would likely wish to retain.

There is a direct effect by calibre of students upon work satisfaction. However, contrary to expectations, there is no significant effect by calibre of students upon retention. This suggests although interacting with competent students makes the work itself more satisfying, it is not enough to assure remaining at the institution. Satisfaction with geographic location of the school and reputation of the school also influence intent to remain with the organization, as was found in previous studies.

Satisfaction with two components of the reward system had some impact upon retention. Although there is a direct effect of salary level upon pay satisfaction, as was hypothesized, the predicted effect of pay satisfaction upon retention was not confirmed. This suggests high performers are not as influenced by pay as they are by recognition; they may leave even when pay levels are competitive if they do not perceive satisfaction in other aspects of their work. There is also a significant effect for promotional satisfaction upon retention.

There is no direct effect of perceived potential for tenure attainment and retention, suggesting satisfaction with the promotion policies of the school must be present to influence intent to remain at the school. Thus, for these nurse academicians, work satisfaction and promotional satisfaction exert more influence upon retention than does satisfaction with pay.

Among the variables affecting retention, geographic location of the school has the greatest impact followed closely by role ambiguity and role conflict. Promotional satisfaction is next highest, followed by work satisfaction and school reputation. The variables which have small indirect effects are perceived likelihood for tenure attainment, calibre of students and external professional communication. Neither professional communication, salary, kinship priority, nor pay satisfaction have a significant effect on intended retention.

Taken together, these results suggest while geographic location is a powerful factor in determining job retention among nursing faculty members in PhD programs, the most significant policy variable is the clarity of role for faculty members. Conversely, pay and promotion, often thought by administrators to be predictive of decisions to remain, emerge

as less critical issues. These results, and the corresponding incorrect prejudices of department chairs as to reasons for faculty departure, have also been suggested in a recent qualitative study of turnover in academic disciplines in leading research universities (Burke, 1986).

Recommendations

There are a number of suggestions in the literature listing strategies for enhancing the job satisfaction of nurse faculty members with implications for retention. However, these are drawn from the authors' theories and observations with few quantitative studies to support them. The results of the current study lend support based upon quantitative data to a number of these qualitative observations.

Role ambiguity and role conflict. The significant negative effects which role ambiguity and role conflict have upon intended retention and upon job satisfaction confirm results of reports in previous studies. Even when a nurse academician chooses to remain at her current school for reasons such as being tenured or being satisfied with the geographic location of the school, the presence of role ambiguity and role conflict may interfere with her overall job satisfaction and limit her effectiveness.

Several authors suggest ways for administrators to minimize role ambiguity and role conflict for nurse faculty members. Clarification as to whom a faculty member is directly responsible may decrease the conflict regarding multiple authority (Rizzo, et al., 1970). Better orientation to job expectations and provision of peer support systems could reduce role strain. A system whereby experienced faculty members would assist newer members to adjust to the many roles of the academician is suggested (O'Shea, 1982). David (1979) goes a step further by suggesting a

written statement of role specifications be available for faculty members. Bailey, Scott, and West (1983) designed an orientation manual in which the suggested orientation period continue for nine months to one academic year.

These suggestions apply to faculty members in general. There are special considerations germane to the current sample, i.e., faculty members at doctorally oriented schools of nursing. For potential faculty members, the clarification of professional role begins at the recruiting stage. Evidence on faculty selection shows most prestigious research universities select new faculty with proved commitment to research performance. One consequence of this careful selection process is a strongly shared commitment to research among members of a department, providing a collegial climate supportive of research (Dill, 1986; Thompson and Zumeta, 1985).

Evaluation is another area with the potential for role ambiguity and role conflict. Even though Goldberg (1986) had stated ambiguity in evaluation is unavoidable due to the attempt to individualize the criteria, general requirements should be specific (Fahy, 1986). In order to avoid role conflict, Goldberg (1986) suggests considering a two-tier system in which some nurse faculty would only teach, some would perform scholarly activities, and each would be evaluated only on those activities. Although she anticipates potential divisiveness from this approach, she perceives it as one way to cope with the myriad functions faculty are expected to perform.

A modification of Goldberg's strategy is suggested by Bess (1982). Based on preferences to concentrate on teaching or research or to do both, Bess suggests establishing different categories of teachers within a

university. These preferences should be clarified during recruitment to avoid potential frustration on the part of the academician as well as the administration. Teaching loads could be adjusted with those in Teaching Professorships having a 9 to 12 teaching hour per semester load and being evaluated on teaching alone. Those in Research Professorships could have a 3 teaching hour per semester load and be evaluated solely on research activity. The remaining positions could combine teaching and research with a 6 teaching hour per semester load and be judged equally on research and teaching. Bess believes that by allowing the most productive individuals to concentrate on what they want to do, there would probably be a net gain in research and teaching effectiveness, not to mention increased job satisfaction. Alternatively, the conflict between time for research and heavy teaching workload may be mediated by awarding release time for research on a competitive basis by selecting quality research proposals reviewed by a panel of active researchers (Dill, 1986). Again, this may be particularly appropriate for those faculty members in doctorally oriented programs.

Several suggestions appeared in the literature concerning the chronic gap between education and service in the clinical setting. Nurse scholars can be used in the area of health care provision to create conceptual frameworks to address clinical problems (Mausch, 1981; Packevich, 1983). This approach constitutes fusion models, and examples of this integration of education and service exist at University of Rochester and Rush University, among others (Sovic, 1981). Joint appointments in other disciplines may also increase professional communication and the socialization process.

Committee membership has the potential for socialization; thus

improving role clarity. Natapoff and Pennington (1986) encourage careful selection of committees for participation. Faculty members should do some planning in order to advance in particular areas of interest and should communicate their interests and plans to their dean, who is most likely responsible for committee assignments. Even though committee involvement can be demanding, selecting committees which include members from various disciplines as well as other nurse faculty members can create the opportunity to enhance observation of, and incorporation of, faculty role performance.

An example of encouraging professional communication and scholarly activity is the development of interdisciplinary research programs and/or research centers. These centers are structural mechanisms utilized in research universities to promote scholarly activities, and can be used in the reward system by providing release time for faculty research (Dill, 1986). Research centers are viewed as tangible evidence of a commitment to research in the Top Ranked Schools of Nursing study reported by Pollack (1986). Thus these centers not only have the potential to increase the prestige of the schools, but also they may be one mechanism for reducing role conflict among scholarly-oriented nurse faculty members.

The effects which internal and external professional communication have upon role conflict and role ambiguity support rationale for faculty participation in professional meetings. Hagopian (1979) explored problems facing school of nursing deans and found them to be, in descending order, faculty research, faculty recruitment, released time for faculty, and financial resource acquisition. Both faculty research and released time for faculty are ranked higher than acquisition as problems for these administrators. Thus, information from the current study

supports the benefits derived from participating in scholarly activities such as research and professional communication, which are funded under released time activities.

Additional ways to encourage professional communication include seminars in which faculty present their current research activities, collaboration on research efforts and paper presentations by visiting scholars (Dill, 1986). All faculty members, and particularly those who are novices to research activities, may profit from research report series sponsored by the school which would include secretarial and editorial support (Dill, 1986). This information should help administrators defend the financial support for these activities.

Job satisfaction. Role conflict and role ambiguity have negative effects upon satisfaction with the work itself. Therefore, the measures suggested above have implications for enhancing job satisfaction. Satisfaction with the work itself and with the promotional system had direct positive effects upon intent to remain at the various schools of nursing. These results have implications at the organizational level. In regard to workload, administration and faculty should work together to develop guidelines which are specific enough to allow an equal distribution of the work which needs to be completed and flexible enough to allow for individual expertise and areas of interest (Smith, 1986).

Concerning enhancement of promotional satisfaction, potential faculty members should be given copies of stated criteria for both promotion and tenure before they accept a position (Fahy, 1986). Faculty members should be encouraged to request peer and student evaluations to increase awareness of areas for improvement well before being reviewed for promotion or tenure. A clear awareness for scholarship and service

requirements is also encouraged. Applegate (1981) suggests formulating with the evaluator annual professional growth contracts consisting of measurable objectives.

A number of authors advocate peer support and a formal mentor system to promote both professional communication and role clarity (Locke et al., 1983; Mauksch, 1982; Dick, 1986). The mentor system could provide information concerning how the system works as well as providing professional role modeling (Locke et al., 1983). The association with research oriented mentors in the schools offering the PhD degree could be beneficial to nurse academicians interested in pursuing scholarly activities. Active involvement by faculty members in decision making is advocated not only as a way to strengthen the sense of group membership but also to increase role clarity and job satisfaction (Locke et al., 1983; Mauksch, 1982; Dick, 1986).

Retention. The preceeding implications for role ambiguity, role conflict and job satisfaction also apply to retention. The one variable which cannot be actively adjusted by nursing school administrators is satisfaction with geographic location of the school. Since this variable has a stronger relationship with retention than do the other variables of significance, potential faculty members probably have a favorable attitude about the location before they explore the other characteristics of the school. Others may be disappointed when reality does not meet their preconceived expectations of what the area has to offer.

Otherwise, administrators can exert some control over the reputation of the school by encouraging scholarly communication among faculty members both on a national as well as local level. In fact, Pollack (1986) did find the encouragement of research and publication by the

administrators in the 1984 Top-Ranked Schools of Nursing nationwide study as the major common characteristic identifying these schools.

Limitations of the study include results based on self reports made at a single time. Despite these limitations, there are potential benefits to identifying the relationships which have been demonstrated. In addition to those previously mentioned, such as the need for more information about the complexities of job satisfaction, there are organizational considerations. In their recent highly acclaimed text on excellence in organizations, Peters and Waterman (1983) note that building the individual's self-esteem by making them "feel like winners" and encouraging them to be creative in their roles are ways to increase satisfaction in that performance. Katz and Kahn (1978) list issues which support high level effectiveness of an organization: the degree to which people join and subsequently remain in an organization, the effective performance of the assigned role, and the occasional innovation and cooperative behavior beyond the required role. Thus any information on phenomena which may enhance individual satisfaction and retention is likely to ultimately enhance effectiveness and excellence at the organizational level. Overall identification of, and subsequent emphasis on factors which increase role clarity and decrease the sense of isolation should enhance the work environment for nurse educators. Being able to realistically offer positive work experience should be useful in recruiting and retaining quality nurse educators in academia.

¹ All data analyzed using the Statistical package for the Social Sciences (SPSS-X). Factor analysis results available from author upon request.

² Tests of assumptions, means, standard deviations and correlation matrices available from author upon request.

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FIGURE 1
Proposed Causal Model For Retention



Exogenous Variables

- Geographic location
- School reputation
- Calibre of students
- External professional communication
- Internal professional communication
- Salary
- Kinship priority
- Tenure

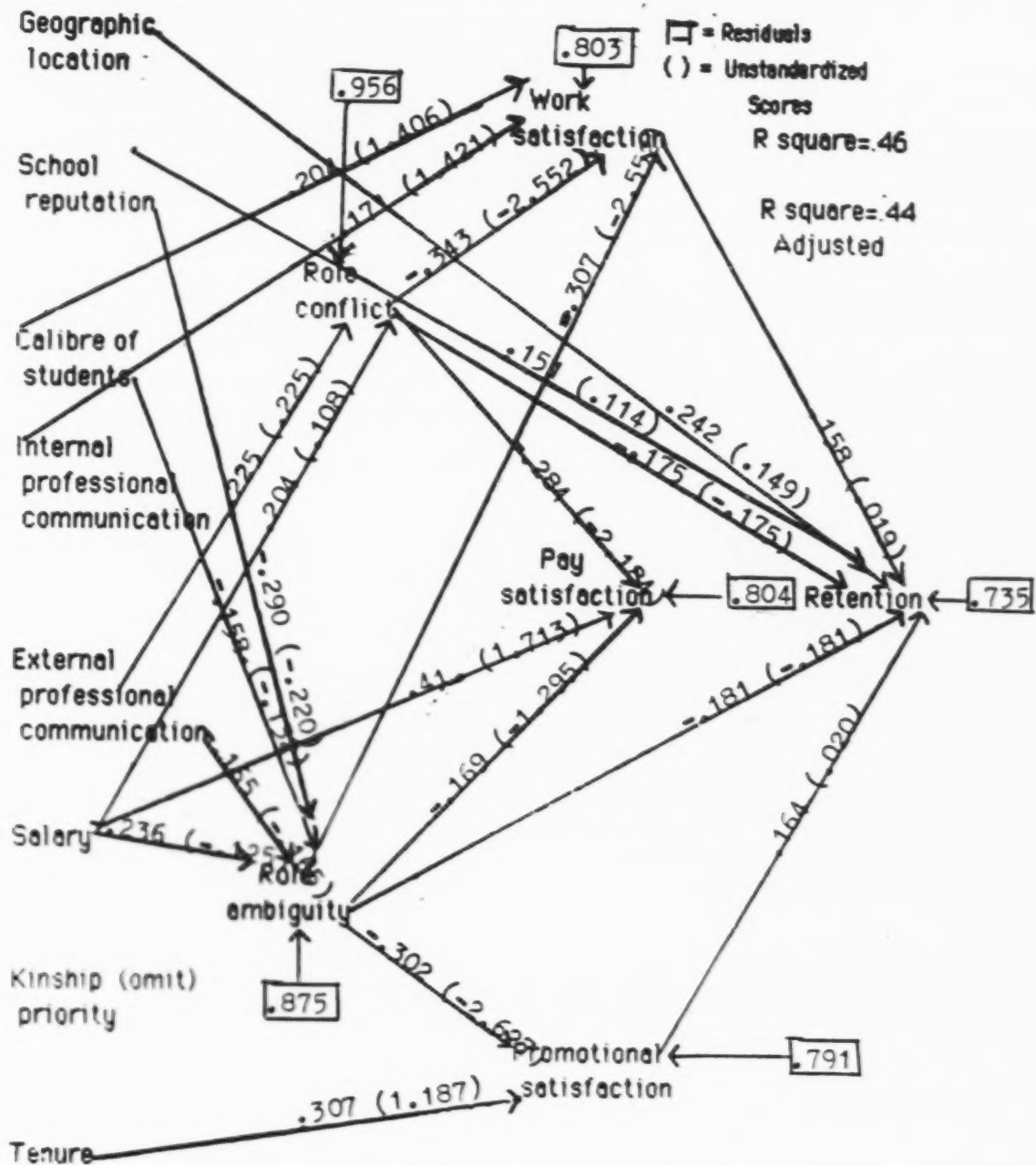
Endogenous Variables

- Role conflict
- Role ambiguity
- Work satisfaction
- Pay satisfaction
- Promotional satisfaction
- Retention

Control Variables

- Academic rank
- Education level

FIGURE 2
Estimation of the Final Causal Model For Retention



Exogenous Variables

- Geographic location
- School reputation
- Calibre of students
- External professional communication
- Internal professional communication
- Salary
- Kinship priority (omit)
- Tenure

Endogenous Variables

- Role conflict
- Role ambiguity
- Work satisfaction
- Pay satisfaction
- Promotional satisfaction
- Retention

Control Variables

- Academic rank
- Education level

TABLE 1
Summary of Hypotheses Testing

Exogenous variable(s)	Predicted direction	Endogenous variable(s)	Outcome +/-; S/NS ¹
DIRECT PATHS:			
I. Geographic location	positive	Retention	+/S
School reputation	positive		+/S
Calibre of students	positive		+/NS
Potential for tenure	positive		+/NS
II. Internal professional communication	positive	Retention	-/NS
III. External professional communication	positive	Retention	-/NS
IV. Salary	positive	Retention	-/NS
V. Kinship priority	negative	Retention	-/NS
VI. Pay satisfaction	positive	Retention	+/NS
VII. Promotional satisfaction	positive	Retention	+/S
VIII. Work satisfaction	positive	Retention	+/S
IX. Internal professional communication	positive	Work satisfaction	+/S
X. Calibre of students	positive	Work satisfaction	+/S
XI. External professional communication	positive	Work satisfaction	+/NS
XII. Salary	positive	Pay satisfaction	+/S

TABLE 1 (continued)

Exogenous variable(s)	Predicted direction	Endogenous variable(s)	Outcome +/--; S/NS ¹
XIII. Perceived potential for tenure	positive	Promotional satisfaction	+/S
XIV. Internal professional communication	negative	Role conflict	+/NS
XV. External professional communication	negative	Role conflict	+/S
XVI. Internal professional communication	negative	Role ambiguity	-/S ²
XVII. External professional communication	negative	Role ambiguity	-/S
XVIII. Role conflict	negative	Work satisfaction	-/S
XIX. Role ambiguity	negative	Work satisfaction	-/S
XX. Role conflict	negative	Retention	-/S
XXI. Role ambiguity	negative	Retention	-/S
INDIRECT PATHS:			
Calibre of students	positive	Work satisfaction Retention	Supported
Salary	positive	Pay satisfaction Retention	Rejected
Perceived potential for tenure	positive	Promotional satisfaction Retention	Supported

TABLE 1 (continued)

Exogenous variable(s)	Predicted direction	Endogenous variable(s)	Outcome
INDIRECT PATHS (Continued)			
Internal professional communication	negative	role conflict	NS
Role conflict	negative	work satisfaction	-
Work satisfaction	positive	retention	Rejected
External professional communication	negative	role conflict	+
Role conflict	negative	work satisfaction	-
Work satisfaction	positive	retention	Rejected
Internal professional communication	negative	role ambiguity	-
Role ambiguity	negative	work satisfaction	-
Work satisfaction	positive	retention	+ : Supported
External professional communication	negative	role ambiguity	-
Role ambiguity	negative	work satisfaction	-
Work satisfaction	positive	retention	+ : Supported

¹ + =positive relationship

- =negative relationship

S =significant result

NS =nonsignificant result

² NS in final model

TABLE 2
Summary of Direct, Indirect, and Total Effects Upon Endogenous Variables
in the Proposed and Final Models¹

Upon Retention									
Exogenous Variables	Direct Effects	Indirect Effects Via						Total Indirect Effects	Total Effects
		Role Ambig	Role confl	Work satisf	Work satisf & role ambig	Work satisf & role conflict	Pay satisf	Promo satisf	
Geographic location	.243 (.242)								.243 (.242)
School reputation	.166 (.151) (.014)				(.053)				.166 (.067) (.218)
Calibre of students	NS (.029)			.034 (.032)	(.008)			(.008) (&Role ambiguity)	.034 (.077)
Internal professional communication	NS (NS)	.043 (NS)		.032 (.027)	.010				.085 (.027) (.027)
External professional communication	NS (.030) (-.039)	.051 (.030)	-.032 (-.039)		.012 (.008)	-.016 (-.012)		(.008) (&Role ambiguity)	.015 (-.005) (-.005)
Salary range	NS (.043) (-.036)				.012 (.012)	-.011 (-.011)			.008 (.008)
Kinship priority	NS (dropped from alternative model)								
Hypothetical tenure	NS						.060 (.050)		.060 (.050) (.050)
Role ambiguity	-.194 (-.181)			-.046 (-.049)				(-.051)	-.240 (-.100) (-.281)
Role conflict	-.123 (-.175)			-.061 (-.054)				(-.028)	-.061 (-.082) (-.257)
Work satisfaction	.166 (.158)								.166 (.158)
Pay satisfaction	NS								
Promotional satisfaction	.149 (.164)								.149 (.164)

TABLE 2 (continued)

Upon Work Satisfaction

Exogenous Variables	Direct Effects	Indirect Effects Via		Total Indirect Effects	Total Effects
		Role ambiguity	Role conflict		
Calibre of students	.206 (.204)	.049 (.049)		.049 (.049)	.206 (.253)
Internal professional communication	.191 (.171)	.062		.062	.253 (.171)
External professional communication	NS	.075 (.051)	-.096 (-.077)	-.021 (-.026)	-.021 (-.026)
Role ambiguity	-.278 (-.307)				-.278 (-.307)
Role conflict	-.370 (-.343)				-.370 (-.343)

Upon Pay Satisfaction

Salary	.397 (.419)				.397 (.419)
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Upon Promotional Satisfaction

Potential for tenure attainment	.401 (.307)				.401 (.307)
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Upon Role Ambiguity

External professional communication	-.268 (-.165)				-.268 (-.165)
Internal professional communication	-.222 (NS)				-.222 (NS)

Upon Role Conflict

External professional communication	.259 (.225)				.259 (.225)
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¹ [] = final model

TABLE 3

Final Model: Additional Effects Upon Endogenous Variables

Upon Work Satisfaction

Exogenous Variables	Direct Effects	Indirect Effects Via		Total Indirect Effects	Total Effects
		role ambiguity	role conflict		

Salary	NS	.040	-.058	-.018	-.018
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School reputation	NS	.089		.089	.089
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Upon Pay Satisfaction

School reputation	NS	.049		.049	.049
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Calibre of students	NS	.027		.027	.027
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External professional communication	NS	.028	-.064	-.036	-.036
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Role ambiguity	-.169				-.169
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Role conflict	-.284				-.284
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Upon Promotional Satisfaction

School reputation	NS	.091		.091	.091
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Calibre of students	NS	.049		.049	.049
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External professional communication	NS	.052	-.038	.014	.014
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Salary	NS	.074	-.035	.039	.039
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Role ambiguity	-.312				-.312
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Role conflict	-.170				-.170
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Upon Role Ambiguity

School reputation	-.290				-.290
-------------------	-------	--	--	--	-------

Calibre of students	-.158				-.158
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Salary	-.236				-.236
--------	-------	--	--	--	-------

Upon Role Conflict

Salary	.204				.204
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TABLE 4

Comparisons of R Squares for the Proposed and Final Models

Endogenous Variables	Proposed Model	Final Model
	R^2	R^2
Role ambiguity	.11514	.23501
Role conflict	.06057	.08518
Work satisfaction	.36636	.35580
Pay satisfaction	.24410	.35299
Promotional satisfaction	.25540	.37475
Retention	.47692	.45598